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Reference 19

Health and Welfare Canada
Santé et Bien-être social Canada

Health Protection Branch
Direction générale de la protection de la santé

REFERENCE #19

CA3 ONHW Q90
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Tunney's Pasture
Ottawa, Ontario
K1A 0L2

May 11, 1983

Anne Koven
Upper Ottawa Street Landfill
Site Study
20 Jackson St. W.
Suite 412
Hamilton
L8P 1L2

ORDAM MUNICIPAL
APR 30 1987
GOVERNMENT DOCUMENTS

Dear Anne Koven,

Re: Analysis of Two Leachate Samples
for dioxins and furans

The analysis of the two leachate sample extracts from the Upper Ottawa Landfill provided by Mann Laboratories has been completed.

These were analysed by the new technique of GC/MS/MS with chemical ionization and monitoring of the M-COCl peak of the parent dioxin or furan. A single injection allows all dioxins and furans from tetra-to octa to be detected and quantitated when compared to known standard responses. The technique enables a minimum of 0.5 pg each per injection to be detected and specificity is high due to the MS/MS measurement.

We first injected the extract as received (1 µL of 1 mL) and found no response. Then 0.6 mL of the extract was concentrated to 20 µL and a second 1 µL injected. Again we found no response for any tetra-to octa - dioxin or furan with a detection limit of 0.5 parts per trillion (ppt; pg/g). Hence the conclusion of our analysis is that we could find no dioxins or furans in the extracts at the stated detection limit.

However, I have a major reservation about the presence or absence of these compounds in the original leachates. No internal standard was included in the samples before the extraction and purification steps so it is not certain whether any

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dioxins-furans originally present would be recovered in the final extract. The question of recovery is particularly relevant if the laboratory, while experienced in residue analysis, was not familiar with this specific analysis (dioxin-furans at ppt levels).

I have returned the remaining extracts to John Martin of Mann Laboratories.

Sincerely,

J J Ryan

J.J. Ryan, PhD.
Food Division

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